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OHIO CULTIVATOR.

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M. B. BATEHAM,
EDITOR AND PROPRIETOR.

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Address M. B. BATEHAM, Columbus, O.

Publisher's Notices.

The Premiums. As our supply of single volumes of the Genesee Farmer has become exhausted, those who have recently, or may, hereafter, become entitled to them as premiums, in accordance with our prospectus, will have to wait till a supply can be obtained from Rochester, in the spring. Or they may, by a little extra effort, obtain a larger premium by sending us the names of four more subscribers. To encourage this, we now make no distinction between new and old subscribers, and we give the two volumes of the Farmer (bound) or vol. 1 or 2 of this paper, as may be preferred, to all who send names and payment for *eight* subscribers

To the Negligent.

Some of our old friends seem to think our rule of requiring payment of *all* in advance, is rather a severe one; and a few have felt as though we lacked confidence in their willingness to pay. Now this is all a mistake. We do not doubt their disposition nor ability to pay, *if called on* for payment—but the difficulty is, we cannot afford the trouble and expense of calling on them; and even where it might come in our way to meet them in course of the year, we do not want that our friends, on seeing us at their door, should have occasion to suspect that we have called to ask them for a dollar!

Procrastination.—There are hundreds of our old subscribers who have not yet sent in their new subscriptions; and if this should meet the eye of any such, we ask them to read the following extract from an appeal of brother *Beecher* to the subscribers of the Western Farmer & Gardener. It expresses our sentiments exactly!

"Now, there will be hundreds who will read this, and think within themselves, "well, as soon as I get time I'll pick up three or four names, and send to renew my subscription." The editor begs leave to bid good-bye to such; as, in nine cases out of ten, they will neglect to do what they only *mean to do*. If the man, on reading this, cries out, "wife, bring me that gourd that has my money in it," and unties the little parcel, lays out *his own* subscription price, writes the letter, and says, "now, before the sun goes down, I will see Mr. A. and B. and C., and mail this letter *to-morrow*," and *then keeps his word*—that's the man that an editor delights to honor. Oh, sir, may you live a thousand years, and have children in number as the stars of heaven, and each of them become a subscriber to the [Ohio Cultivator.]"

☞ We have plenty of back numbers of the past month, for new subscribers.

The American Herd Book—By L. F. Allen We have a few copies of this work for sale at our office; and we invite gentlemen who admire fine cattle, and wish to obtain a work of real merit on this subject, to call and examine it. Besides pedigrees of the principal herds of Short Horn cattle in this country, it gives a spirited and concise history of English and American Short Horns, and remarks on the peculiarities and characteristics of the breed, with hints on management, breeding, &c.

Another Word about Ice Houses.

In reference to the directions in our paper of January 1st, for the construction of ice houses, we have received a letter from Mr. E. B. Scott, an extensive dealer in ice, of Cincinnati, stating that he thinks the *size* recommended by Mr. Downing is quite too small for this climate, where the ice is less solid, and more difficult to preserve, than in New York or Massachusetts. Mr. Scott thinks 20 feet square a better size for families than 12 feet.

Judd's Centrifugal Windmill.—Mr. J. H. Smith, the owner of the patent for this State, has just arrived in this city, and may be found at the Neil House, with a model, &c. We believe this to be an important improvement for those wishing a cheap and efficient motive power for driving machinery, and superior to all other windmills. A fuller notice will appear in our next. In the mean time we invite citizens and strangers to call and examine it.

The Meeting of Wool Growers.

LETTER FROM MR SAWYIER.

Mr. Bateham:—I have by this morning's mail received the last number of the Ohio Cultivator, and am very happy to see a meeting of Wool Growers notified to be held at Steubenville on the 10th day of next [this] month; to talk upon matters relating to and for the good of that branch of agriculture, in this section of the Union. This, I think, very proper, and may be made highly beneficial to all of us engaged in it, and to our country.

I am highly gratified at the sentiment suggested by Friends Perkins and Brown. "We have no Saxony or Merino disputes to settle there."

I hope every flock master will go there highly imbued with this sentiment. There has been too much altercation upon that subject. Let us all go there with both ears open to hear all the suggestions which may be offered for the improvement of our business, the augmentation of our property, and the good of our country. I hope there will be a general attendance of every man who means to render wool gowing an object.

It is an important branch of agriculture, and one which is to tell largely in the aggregate amount of the products of our Country. There is yet a great deal to learn in it. We want a relation of the experience of every flock master.

Very respectfully,
Your obedient servant,
Nathan Sawyier.

Cincinnati, Jan. 16th, 1847.

Sales of Wool--Samples, &c.

Mr. Bateham,—I send you a few samples of my wool, from bucks raised by myself and others, as per labels; and I wish you would compare them with the fine samples in your office, and tell me where I can procure better sheep. The ewes these were raised from, were most of them directly from Brownlee's flock, of Washington county, Pa., and the buck was from the same State—his fleece weighed 7 lbs. * * * My flock consists of 50 head. I have not sold my last clip of wool, being offered only 25 cents per lb. for it. I see in your paper a statement that Mr. Patterson, of Pa., has sold a part of his wool at 75 cts. per lb. Now I wish to know if 1 lb. of Mr. Patterson's wool is worth 3 lbs. of mine? If so, I think I will quit the business.

IRA CARROLL.

Perry Co. O., Jan. 1847.

Remarks. From an examination of the samples, and the weight of fleeces stated, we think Mr. Carroll paid more regard to quantity than quality of wool in the original selection of his bucks—hence while the samples are good for their weight, they are by no means as fine as required by such manufacturers as pay the highest prices; as he will discover by comparison with a sample of Mr. Patterson's wool which we have sent him. We think however that his wool should bring more than the price he mentions, if washed and put up in fair order; and we cannot see how the difference in value can be as great as is alluded to. We would advise friend C. to attend the above named convention at Steubenville.—Ed.

On Draining Lands,

As an important means of Improvement.

(*Continued from last No., page* 10.)

The modes of constructing covered drains are quite various; depending on the nature of the ground, the amount of water to be conducted, the kind of materials at hand the, degree of permanence required, &c. The annexed engravings, with a few words of explanation, will serve to convey an idea of the modes in most common use; these can be varied to suit convenience:

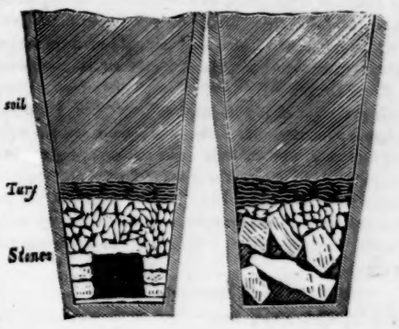


Fig. 1. *Fig.* 2.

Fig. 1, is a representation of the most permanent and largest class, called *main* or *submain* drains. The size of the opening or drain can of course be varied according to the amount of water. Where the stream is considerable the bottom of the drain should be paved with flat stones—oak plank is sometimes used, but of course is not so durable—to prevent the washing of the foundation. The sides are walled with stone, and the top covered with the same material. Small loose stones are then thrown in, to fill the interstices and aid the drainage, the quantity to depend on the depth of the drain, and the abundance of the material—the more the better, provided the stones do not reach within 15 to 18 inches of the surface. On top of these stones inverted turf (sod,) is placed to prevent the soil from washing down among the stones. Straw, dried leaves, or any similar materials will answer for this purpose. The soil is then filled into the remaining space, with the shovel or the plow—and the drain is completed.

Fig. 2, represents a drain constructed with less care, being formed of loose stones thrown in somewhat promiscuously, but so as to leave considerable open space among them at the bottom, through which the water can escape. This form answers a good purpose where there is plenty of stones, and but little flow of water.

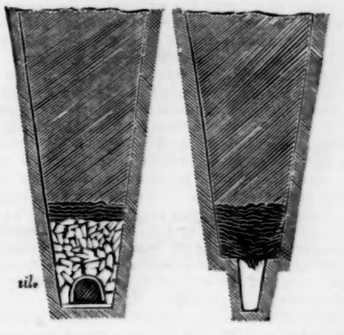


Fig. 3. *Fig.* 4.

Fig. 3, represents a *tile* drain. This is a form of drain now much used in England and Scotland, and found more economical than any other. Instead of stones at the bottom, an arched *tile* is used, made of brick clay

burned hard. These are formed in a mould like bricks, by hand or machinery. The tiles are made of various forms and sizes—the most common being curved in an arch or semicircular form, as shown in the cut, and resting on a flat sole or shoe. Sometimes two of the curved tiles are put together so as to make a circular pipe or conduit, 3 to 5 inches in the clear, over these is placed small stones or gravel, as before, then turf, and next the soil. We shall speak of this kind again.

Fig. 4, is called a wedge or sod drain. It is only suited for hard clay soils, and where much durability is not expected. It is formed by digging out the earth say to the depth of two feet, and nine to twelve inches in width at the bottom; then with a narrow spade, made for the purpose, dig, in the middle of the bottom, a small drain or groove 5 or 6 inches deep, 2 or 3 inches wide at the bottom and 3 or 4 inches at the top; clean out all the loose earth, with a scoop hoe made for the purpose, then cover with thick inverted, sods, cut out of clay soil and made to rest on the shoulders of the drain, as represented in the engraving. In compact soils these drains are said to last many years if rightly constructed—but they cannot be recommended, except where better materials are difficult to be obtained.

Brush Drains.—We have known very effective drains made in this country, with brush of trees; using sticks two inches in diameter, and smaller, and placing them in a sloping direction, with the butt downwards, filling the bottom of the drain one foot or more in thickness, then covering with straw or turf and filling up with soil. If the drain is 3 or four feet in depth, and the soil clayey, so as to mostly exclude the air, a drain made of brush will last for many years.

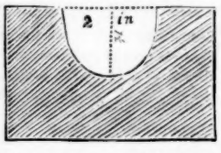
Tile Draining in Ohio.

Having spoken in general terms on the subject of tile draining, in the preceding article, it gives us pleasure to add, that some experiments with this mode of improvement have been made in the north part of this state by Dr. Townshend and others, of Lorain county, and we believe by Dr. Kirtland of Cuyahoga. We annex a letter on the subject from Dr. Townshend, which was written in answer to a request from the Superintendent of the Ohio Lunatic Asylum:

(Letter from Dr. Townshend.)

Dear Sir:—I take my earliest leisure to reply to your letter expressing Dr. Awl's desire to be furnished with a description of the "*tiles*" used for drains, exhibited at the Oberlin Agricultural Fair. They were draining *bricks*, which are on some accounts preferable to tiles. They resemble common bricks, with these differences: they are longer and have on one side a groove nearly semi-circular, which, when two brick are placed one on the other, forms the drain or water-course.

The length of the brick is 12 inches, breadth 4½ inches thickness 2¾ inches. The groove is half a circle of 2 inches in diameter with ½ an inch added to the depth (*see cut*) so that the channel formed by placing one brick on another is 2 inches wide and 3 deep.



The moulds for making these bricks are made in the same manner as for the common article, though not more than four of this size can well be moulded at once. The piece that forms the groove can easily be fastened in after the mould is in other respects finished. Some allowance in size, should of course be made for what the bricks will shrink in drying and burning.

When used for draining the bricks should not often be placed at a less depth than 2 feet from the surface—particularly if the use of the subsoil plow is contemplated—and certainly never less than 18 inches. [The greater the depth the more effectual the drainage.] Small stones and turf or some other porous material, as tan bark, saw dust, &c., should be placed first on the bricks, in filling the drain, before the soil is added, in order to aid the drainage, especially in clay soils.

These tile or brick drains are used as branch or side drains, tributary to larger drains or open ditches. The main drains should, if possible, be several inches lower than the mouth of these side drains, else they will be apt to get choked up with mud.

The cost of draining bricks is about 50 per cent more than common bricks; at this rate where common bricks are $4 per 1000, these will cost but 20 cents per rod for the drain—while therefore, they are nearly as durable as stone, they are almost or quite as cheap as wood. There are no *patents* to interfere with their manufacture or use.

With much esteem, &c. &c.,

Elyria Ohio. Norton S. Townshend.

Use of Lime in Agriculture.

In order to give our readers the most reliable and practical information in regard to this important subject, we addressed a letter the past month to that well known friend of agricultural improvements, Dr. William Darlington, of Chester county Pennsylvania, who in addition to high attainments in science, possesses large experience in practical agriculture; and from residing in a district of country where lime has been very generally used by the farmers for many years past, he has the best possible opportunities for observing its effects, and the modes of its application.

We bespeak therefore the fullest confidence of our readers in behalf of the instructions with which he has favored them; and we tender him our sincere thanks for his kindness on this and other occasions.—Ed.

Letter from Dr. Darlington.

West Chester, Pennsylvania, January 16, 1847.

M. B. Bateham, *Esqr:—Dear Sir.*—Yours of the 9th inst., expressing a wish for some parctical instructions in regard to "the application of *lime on wheat soil*," came to hand last evening. Although this is a region in which lime is very extensively used, in Agriculture, I do not know that I can refer you to any particular individual, with a prospect of your obtaining more than the every-day observations of farmers, on the subject: nor does any published work, of special importance occur to me at this moment. That excellent work, the *Farmer's Encyclopedia*—published in Philadelphia in 1844—contains some judidious remarks, under the article *Lime*; but they are brief. I have, in several instances, furnished brief sketches of my own experience, and opinions, on the use of lime, to gentlemen in different parts of the United States; and as I cannot now put you in a way to obtain information elsewhere, I am very willing to recapitulate the substance of what I have communicated on other occasions.

In *Chester County*, Pennsylvania, *lime* is annually and regularly applied to the fields, in succession, by all good farmers. It is found beneficial in every kind of soil; but perhaps more conspicuously so in that where *clay* predominates. I understand, however, that it is found highly valuable in the *sandy* soil of New Jersey,—and that it is, of late years, very extensively used in that State.

The practice, in this region (Chester county,) for many years, was to apply fresh slacked lime to the ground which had been ploughed preparatory to planting Indian an corn; and I believe that is still the usage in a majority of cases. It has always answered a good purpose, when thus applied,—as indeed it *never* comes amiss; but, of latter years, many of our best farmers have adopted the practice of using lime as a *top dressing*, on the grassy sod. I have used it in both ways; but for a number of years have preferred the *top dressing*.

My practice now is, to apply about 40 *bushels of lime* (slacked to a fine powder) *to the acre*, on the young clover and timothy in the *wheat stubble*, in the autumn, or any leisure time after harvest, I am satisfied, from long observation, and considerable experience, that this is the preferable mode, on our lands here; though it will answer an excellent purpose at any other time.

Lime seems to be particularly favorable to the growth of the valuable *grasses*—including all our usual *grain crops*,—but I have not been accustomed to see it applied, *immediately*, to any of the *cereal grasses*, except *Indian corn*. What the effect would be, when applied directly to the *wheat crop*, I am unable to say. In this region, where *grazing* is preferred to the culture of *grain*, we rarely or never see lime applied, except on Indian corn ground, and on the grassy sod of stubble or pasture fields.

The *quantity* of lime must be regulated by the soil. On very poor land, the first dressings should be light,—and gradually increased as the soil improves. On the poorest land, *twenty bushels per acre* might be sufficient; but it may be gradually increased to 50, 60, 80, or even to 100 bushels per acre, when the soil becomes rich, and full of decaying vegetable matter. As a general rule, however, I should prefer *moderate and repeated* dressings, to very heavy ones. But after all—the great secret, I believe, of improving land, is to *manure well all the ground that is cultivated*,—and employ *lime* as an *auxiliary*, in the mode above suggested.

I gave a brief synopsis of my views on the use of *lime*, in an Address before the Agricultural Society of Philadelphia a couple of years ago—which contains the *substance* of all I can now say. I believe I sent you a copy at the time; but lest that be lost, I now send you another copy. From that, and what I have here repeated, I trust you can extract such a statement as will suffice to induce the Ohio Farmers to try the system. I cannot but think they will find it answer a good purpose.

Excuse this hasty scrawl—and believe me very respectfully, your most obedient.

Wm. Darlington.

[*Extracts from Dr. Darlington's Address.*]

The *Farmer*, then, must go earnestly to work to perform the duties of *his* department. The first step is to enrich his land: and this, as I have intimated, is best accomplished by ploughing no more ground than he can thoroughly manure. To accumulate manure must, therefore, be a leading object. The chief element of manure being vegetable matter, the production of that material, on exhausted soils, is necessarily slow and tedious; but we have found a powerful and valuable auxiliary, in that process, in the application of *lime*.—This mineral, judiciously applied, is known to be highly favorable to the growth of the natural family of *grasses*, and especially of the more valuable species of that family. By an increase of those grasses, we are enabled to keep a more numerous *stock*, and thereby to augment the quantity of barn-yard manure. This increase of manure enhances the beneficial influence of the lime; for lime has ever the best effects in conjunction with manure,—and the dose of that mineral may be gradually heavier, as the soil becomes richer. Thus these important agents may be made to co-operate with augmented efficacy, as the work of improvement advances. The calcareous dressings promote the increase of vegetable matter; and by that very increase, their agency is rendered still more effective and salutary: so that what the Roman poet says of the progress of rumor, or *fame*, may be literally applied to the use of *lime*, in agriculture:

"*vires acquirit eundo.*"

The application of lime for the improvement of the land is, perhaps, more universal, and its advantages better appreciated, among the farmers of *Chester county*, than in any other district of our country. The practice there, for many years, has been to apply quick lime—slacked so as to reduce it to a powder—on the grounds which have been prepared for Indian corn. This was long supposed to be the most appropriate time for applying it,—and it is still generally observed; but experience has demonstrated, that the application *never* comes amiss, —that it is beneficial at *all times*; and the maxim now is, to *be sure and put it on*, some time in the year. Of latter years some of our best farmers have adopted the practice of using lime as a *top dressing*, on their meadows and pasture grounds—for every field, in its turn, becomes a *meadow*, after the wheat crop:—and I am strongly inclined to the opinion that this will be found the most advantageous mode of applying it. It mingles directly with the dead vegetable matter on the surface, and thus, as I suppose, improves the quality of that refuse herbage, as a manure. It moreover exerts a salutary influence upon the *turf*, or sod, in stiff clay soils, by mellowing it—and otherwise improving its condition. Another advantage attending top dressings of lime on grass lands, is, that they can be applied at the seasons of greatest leisure and convenience to the farmer. On the whole, therefore, I believe this method entitled to the preference; or, at least, is worthy of the consideration of practical agriculturists. Indeed, there is every reason to believe that *top dressing*—even of the driest and lightest manures, or of straw, itself, produces a more signal effect upon the growth of the valuable grasses, than results from the same materials when buried by the plough; and the subjects deserves further investigation.

The *quantity of lime* employed in agriculture, on a given surface, should be regulated by the *quality of the soil*. On sterile, or exhausted lands, where the vegetation is scant, the dressing should be at first light, yet gradually increased, as the soil improves. Thirty bushels to the acre, equally distributed, may be sufficient at the commencement: but, as vegetable matter accumulates, the quantity of lime may be enlarged, by degrees, to sixty or eighty bushels to the acres. Some of the best Chester county farms will bear even one hundred bushels per acre, with advantage; and it is remarkable, that the very soil that overlies the limestone rock, will bear the heaviest dressings of that mineral.

If I might here venture at a *Chester county prescription*, for the treatment of an exhausted farm, I would say to its occupant, make your fields small, or at least, plough only so much as you can manure well, when it comes to be laid down with wheat, timothy and clover: give your Indian corn-field a moderate dressing of lime, preparatory to planting. The intermediate crop, between the Indian corn and wheat, may be oats, or barley, as the quality of the land may warrant; and when the wheat crop comes off, apply a top dressing of lime on the young herbage—of clover and artificial grasses—among the stubble. Proceed in this manner with each small field—or so much of each field as you can do justice to —in succession: and in the meantime, as ability permits, apply a top dressing of lime to such other fields as are to remain a few years undisturbed by the plough. Let your *stock* be of the most valuable kinds—and if they are not so, go on selecting the best, until they all become of that description;—but keep no more than can be *well kept:* and so manage your stock and the vegetable products of the farm, as to make the greatest possible quantity of manure. These are, in brief, the directions which have been found to answer upon the worn-out lands of *Chester;* and I presume they will prove equally successful in all cases, of similar soil and climate.

Improvement of the Breeds of Cattle.

The following remarks on the importance and practicability of improving the breeds of cattle in this country, are taken from the introduction to Allens "American Herd Book"—a work that should be in the hands of every farmer who owns or loves to see good cattle:

To such Agriculturists as regard the great cattle-breeding interests of the country of inferior, or but of ordinary moment, this volume may be of trifling consequence. If their whole course of observation, during the years in which they have been engaged in the indispensable and highly honorable calling of husbandmen, has not led them to appreciate the amazing deficiency of the many points of excellence in which our native cattle abound, they have yet to learn that, of which a very moderate amount of investigation will convince them: at least one-fourth of all the vast sum of labor and of forage which is annually expended in the rearing of such a class of animals, is irrecoverably lost in misapplication. According to the census of the United States, very loosely made, in the year 1840, the number of neat cattle in the whole country was a fraction less than fifteen millions. The value of these, at a trifle less than seven dollars a head, would be, in round numbers, one hundred millions of dollars. The rapid increase which our country has since made in agricultural wealth, has greatly augmented this number, and we may safely estimate them, in 1846, at eighteen millions; and their value, at least one hundred and fifty millions of dollars. We shall not attempt to argue a question so easy of solution as that of increased value which attaches to the improvement of any breed of domestic animals. We consider it as identical with that of improved grains, vegetables, implements, and of labor-saving machinery. If, by the introduction of better breeds of domestic stock of any kind, we add in any degree to their profitable uses, with an equal cost of subsistence, such additional amount as may be so added, is certainly an absolute gain beyond what we before received upon the same capital;and as suredly, whatever tends to promote such increase, must be an achievement of immense benefit to the community.

Suppose that the eighteen millions of neat cattle now in the United States, by the infusion of better breeds among them generally, should, in their earlier maturity, and increased product of milk and flesh, with an equal consumption of food, and by a moderately increased amount of care, produce an additional profit of one-fifth, or twenty per cent.—certainly a moderate estimate the annual value of such improvement will be that which is derived from an additional invested capital of thirty millions of dollars!—a vast sum in the aggregate of our agricultural wealth. And this is no fiction. Absolute, well defined, laborious investigation has well settled the question. Cattle-breeding has assumed the dignity of a science. Acute and investigating minds, for more than two centuries, in England, have unremittingly labored to accomplish the splendid and gratifying results which they now triumphantly show to the world in the matchless animals thickly sprinkled over that highly cultivated land; and their example, for the last twenty years, we are happy to remark, has more or less influenced their brethren in America.

According to Youatt, a veterinary Surgeon of London, who published, under the superintendence of "The Society for the Diffusion of Useful Knowledge," a valuable work on British Cattle, in 1834, the average weight of beef cattle at the Smithfield market in London, in the year 1710, was but 370 pounds each. A select committee of the House of Commons, in a report printed in 1795, stated, that since the year 1732 their neat cattle, on an average, had increased in size and weight one-fourth, or twenty-five per cent. This would make the average at that time (1795) 462 pounds. The average age of fatted cattle was formerly about five years. At this last period, the peculiar state of the times in Great Britain, and indeed in all Europe, (for the French revolution had now stirred up the political cauldron of nearly all Christendom, was exciting increased attention to agricultural pursuits, and the spirit of improvement in their herds of neat cattle had spread through England and Scotland to a wide extent, and probably no period of time ever witnessed a more rapid dissemination of valuable material for promoting the increased excellence in this variety of domestic animals, than the thirty years succeeding that period. We are not surprised, therefore, at finding, according to the same authority, the average of the Smithfield cattle in 1830 at 656 pounds each—an increase, in twenty-five years, of over forty per cent.—an astonishing contrast; and when it is understood that these last were fitted for the market at an average of four years of age, instead of five, and probably with the lessened consumption of one year of forage, and a slightly increased expense of annual preparation for market per head, the additional profitable results are enormous. So much for improvement in England, where their efforts in all branches of agriculture are still advancing with undiminished vigor.

But we have taken things more quietly in America. Our agriculture, in all its branches, save that of the planting interest, had, until since the termination of the late war with Great Britain, and the general peace in Europe, remained almost stationary. Since that period, with the rapid development of our great national resources, our immense acquisitions of fertile territory, the extension of our canals and rail-ways, the improved navigation of our almost endless rivers and lakes, and the unexampled increase and spread of our population, has arisen a spirit of enterprise in our agriculture, giving evidence of its future rapid advancement. Mind and investigations are more actively applied to rural pursuits than formerly; and it is hazarding little to assert that the ratio of products on agricultural capital, partially effected indeed, from the cultivation of the new and more fertile soils of the west; but much, very much from the improved systems of husbandry obtaining among us, are in a great degree increased. We now have treatises on almost all subjects appertaining to agriculture. Our periodicals devoted to this subject, discuss and decide with intelligence and ability, weighty questions on rural affairs; and men of education, travel, and professional attainments, are not, as formerly, ashamed —yes, that is the word—to discuss, either in casual, or conventional meetings, any topic connected with that, which all now acknowledge to be a noble and dignified profession.

The breeding and rearing of neat cattle in the best manner, and to that perfection of excellence to which the animal economy is capable of arriving, is a subject of deep study, and of long and patient experiment and investigation. It is, too, an agreeable, a delightful employment—one in which great and strong minds both in England and in America have sought recreation, and evinced in its pursuit a zeal and public spirit worthy, in the benefit they confer upon their countrymen, of all acceptation. They appreciate the benefits which are to accrue to our national prosperity, in an increased attention to the subject; and with the great example of their labors before us, well may our country gentlemen and professional farmers be content with the pursuit they have chosen, whether for a rational pleasure or a necessary occupation.

But we have digressed. If, by increased attention to breeds, the cattle of England have nearly doubled their weight in a century, (and taking into the estimate the gain of one year's keeping, by reason of early maturity, it will, practically, be quite doubled,) we in America, have the strongest inducement to improve our own herds to all possible extent. That we are far from possessing the best races of animals in our native stock, is generally admitted. They have many faults, with some redeeming excellencies. As dairy cows, they are only tolerable. As working oxen, they are, usually, good. But, in early maturity, they are decidedly bad—seldom ripe till six years old—oftener at seven or eight;—rigid handlers—ill-shaped—heavy boned—and, compared with their weight of flesh, great consumers. The bad qualities should be rectified,—the good ones may be perpetuated. We do not intimate that so great an increase can be made in the weight of our cattle, even by adopting the most approved breeds of England, as has been exhibited there; but we can do much, very much in that particular. We can save, at least, the consumption of one year's forage, with the same profitable weight of carcass. Our native steers, at three and a half years old, when most of them are driven to market, and at an age in which they are altogether too young for *good* beef, do not *average* 500 pounds each, in profitable weight. Full-grown oxen, six years and upwards, grass-fed, with an additional three to six months of hay, roots and meal, will not exceed an *average* of 800 pounds; and a tolerably fatted cow, after running three months dry on the best of grass, and an equal time on hay, roots and meal, will not exceed 400 pounds, as a rule. Now, these weights, where we have no Highland, Kyloe, Welch, and other diminutive cattle, as in England, to make up the Smithfield average, thousands of which do not exceed 350 pounds each, are a very low average. Were the short horns generally introduced into our great cattle districts, upon the strong soils, and crossed upon our native stock up to three-fourths and seven-eighths blood, there can be no question but one to two years in maturity would be gained, with an increased weight of carcass; and, to say the least, an equal quantity of beef, with a diminished consumption of food. The market value of the flesh, too, would be enhanced: that is, a greater weight of mess beef can be cut from a short horn than from a native animal. The briskit, crop, loin, plate, and rump, in the one, being much heavier, relatively, than in the other. The peculiar mellow handling of the short horn is also indicative of a superior quality in the flesh, adding to its selling price on foot, and rendering it easier of support on a less quantity of food. So too, with the milking qualities of the cow. The milk of the short horn is proverbially rich. The quantity is also increased; and we have no hesitation in asserting that an average herd of high grade short horns will yield, with a proportionate weight of carcass to the animal, and an equal consumption of food in the aggregate, at least ten per cent. more butter and cheese, than a like herd of common cows. Many accurate judges estimate it higher; but we are content with this low scale of superiority—sufficient, at all events, to induce a reform in the entire dairy system of our country. With many, it may be considered a minor question; but the profitable disposition of the cow, after her dairy qualities shall have been exhausted, should not be disregarded. It is important that she be turned to good account always; and having performed her whole duty at the pail, she should finally yield her full quota of profit in a valuable carcass. All this can be effected with the short horn in a superior degree, as those powers of secretion which make her unrivalled at the pail, will, when turned in an opposite direction equally prove her excellence in the shambles.

Another topic connected with the improvement of our neat stock is worthy of consideration, as inducing increased interest and attention with the farmer; and that is, the creation or developement of a higher standard of taste and judgment in the pursuit, than would otherwise exist. An association with inferior or ordinary objects, gives no strong attachment to them, or their kind. The great mass of our farmers who have associated in their minds none but mean and common things, have no appreciation of the harmonious and beautiful developement in the animal economy which is so strikingly displayed in the improved races of domestic animals. All, to them, are alike. Utility, even, loses half its interest, and they delve on in a sort of reluctant servitude in their occupation, without impulse, other than that of the most sordid kind; and live, drudging on, entirely unconscious of that charming interest and admiration which attaches to all things beautiful and good in the animal creation, which might, otherwise, surround them. With them, a cow is a cow, simply,—a steer or a bullock is such only, as a thing of course,—a laboring ox, mean and inferior in his figure and performance, is the brutal drudge of his own more laborious drudgery, and nothing else, without even an inquiry whether, in all of these, his cow may not be increased in the beauty and fineness of her proportions, or the profitable secretions of her milk, both in quality and quantity; his bullock in the lessened consumption of his food, his increased bulk, or finer quality of meat; and the partner of his toil, the laboring ox, in his greater docility, his more perfect developement of limb, and ability to perform his daily task, and the consequent profitable results of his labor; and finally, the full accomplishment of all that his race is capable, in his fitness for the food of man.

This, to us, is no small consideration. The negative influence of such want of observation, if influence may be said to exist at all, where there is nothing but apathy to excite it, is productive of no good. It is a bar to all progress of any kind, and can only be eradicated by example, and the absolute creation, or infusion of a due estimate of excellence, new to his whole previous course of observation. In a young mind, not yet matured and settled down into absolute stolidity, example has a strong effect; and by its occasional presence much of latent inquiry, and of subsequent active investigation may be effected. This is the spirit we wish to arouse. Once put in action, it will go on, with more or less of vigor and activity, until the great purposes of improvement are accomplished.

It is often remarked by persons of observation, attached to other pursuits or professions, when the subject of agricultural life, and its advantages are discussed, that the dull routine of farming has no interest for an active mind. Its employment is drudgery—its associations vulgar and uninteresting. There are no high, refining aspirations connected with the farm—no intellectual, intelligent results in its labors! How utterly mistaken is this sentiment! What a total misappreciation of a noble and exalted subject! What an abounding ignorance of the numberless objects of delightful interest which attach themselves to an intelligent mind in a thousand different ways, seen no where else than in rural life, and in rural pursuits! Such theorists, if they speak from any experience of their own, have been schooled in the least interesting labors of the farm.

But I am generalizing. I say thus much to illustrate a principle. It is a positive good to do all in our power to make interesting whatever appertains to our pursuits, be them what they may. If, by adapting to our use, the finer breeds of domestic animals of any kind, our interest in them is increased—and there can be no doubt of it—this, of itself, is a high incentive to further improvement, and in other objects. It will extend to all else within our control, as well as to them; and a high standard of excellence in all that relates to the profession, is the result. Multitudes of instances attest this truth. * * * * * * * *

Fruit Trees in Washington Co. O.

The Burlingame Pear—Pioneer Fruit Cultivators—Varieties of Apples—The Bitter rot, &c.

Mr. Editor:—The first attention of the pioneer farmer, is generally devoted to the production of corn and wheat—usually the careful wife of the western emigrant lays up a small store of peach stones and apple seeds to plant about the prospective home—and not unfrequently the first generation pass away ere any greater progress is made in the introduction of fruit. From these seeds there may originate new and choice varieties. In this way was produced the "Burlingame pear" of great excellence—the first tree of which now stands in sight of Harmar,

near the Ohio—and many superior kinds of apples in this county.

But those who first settled this county and region, were not content with relying upon this uncertain source for supply.

In 1792 Israel Putnam, grandson of the hero of that name, made a tour through Massachusetts, Connecticut and Rhode Island, for the purpose of procuring scions—which during the winter he sent out by a man coming west, whom he furnished a horse; the man came to Marietta and delivered the scions to judge Fearing, who had a nursery of seedlings already situated near Fort Harmar, after which he absconded with the horse.

In the spring of '93 judge Fearing made good use of them, as did others, who were supplied from this stock. This I believe, was the first introduction of choice varieties of apples into the state. Among these was the Russet, R. I. Greening, Pearmain, Seeknofurther, Spitzenburg, Pippins, &c. [See O. Cult. of Aug. 15, 1846.]

The Russet scions were probably obtained from the orchard of Mr. Putnam's father, Col. Israel Putnam then of Pomfret, Ct., afterwards of Belpre, as I am informed by David Putnam, Esqr. of Harmar, that there were trees of this highly valued fruit in his fathers orchard at that time, and that they were known simply by the name Russet, without the prefix Roxbury at Putnam.

The Russet has ever been the standard apple here, many more of them are raised than of any other variety; there is great difference in them, some in the same orchard possessing far superior qualities. Among the most famous here are those propagated by the late Col. Nye of Marrietta. The general impression is that this in common with other ancient varieties of apple is deteriorating, and some of us have on that account procured a part of our trees from abroad, with what advantage time only will determine.

The fruit business is carried on to considerable extent and with fair profit in this county—large quantities are shipped to distant markets.

The summer apples here are the Early Chandler, Summer sweeting; Harvest and Fall, the great favorite is the Cooper, which for the time it lasts is unrivalled; The English Rambo, is excellent with us in November; We have been introducing some new varieties; The American Pippin or Grindstone, the Willow, Rome Beauty, Golden Gate, Baldwin, &c.; which it is hoped may succeed well for late fall and winter; a great difficulty with the Newtown Pippin, is that they are not fair, but covered with dark blotches; The Romanite seems to be peculiarly subject to bitter rot, a disease little understood, and so far remediless, which sweeps off whole orchards. We have many excellent nursery men in this county, and the growth of fruit is greatly on the increase.

This is the season for rabbits to trouble them. I have found rancid grease rubbed on the bodies near the ground a preventive—from some observation I think tar dangerous to the tree.

We would be glad to learn something in regard to the bitter rot.

Would it not be well for orchardists and farmers generally who have choice seedlings, to communicate accurate descriptions of the new varieties in their orchards; that we may have the benefit of each others improvement.

Yours,

D. E. Gardner.

Marietta Ohio, Jan. 15th, 1847.

P. S. We have many men in this county, who know far more on these subjects than I do, from whom the most skillful might learn, if they would but pour out the treasures of their experience. If this imperfect communication may provoke them to good works, it will be well.

D. E. G.

Is the "Cooper" an Ohio Apple.

Mr. Bateham:—I see it stated twice or more, in your last paper, [from the Horticulturist] that the *Cooper apple* is a seedling of this State. I should be glad to claim for my State the honor of originating such a noble fruit, but does not the list of grafts sent out from Connecticut, to Marietta, in 1796, published in your paper of August 15th, which contains the "Cooper," prove, beyond contradiction, that this apple came from Connecticut to Ohio? As you procured this list, and should, therefore, be supposed to know considerable about its authenticity, we should be glad of your opinion in the premises.

Respectfully, &c.

C. SPRINGER.

Meadow Farm, O., Jan., 27th., 1847.

Remarks.—We can safely vouch for the authenticity of the list of grafts above referred to, and we think if the apple sent Mr. Downing is the original Cooper apple, of Washington County, it will prove identical with the Fall Pippin or some other old variety—though doubtless changed somewhat by the change of the soil and climate. Not having seen the Cooper apple in its mature state we can give no opinion ourself respecting it.—Will Judge Barker, or some member of the Putnam family, favor our readers with a more particular account of the varieties of apples originally introduced into Washington county, and also those now found valuable in that region?—Ed., O., Cult.

OHIO CULTIVATOR.

COLUMBUS, OHIO, FEBRUARY 1, 1847.

Editor's Own Corner.

We are again obliged, by want of time, to defer attending to a number of letters that have been received. An unusual affliction, in the shape of a *lame eye*, has also interfered with our studies of late. It is now recovered.

A communication from a "*victim*," for our ladies' department, arrived one day too late for this number.

We have a valuable communication on making pork with young hogs, by our friend J. W. Dana. Will he be so good as to inform us as to the breed of his hogs, and the mode of feeding?

"An Old Farmer" shall have a place, and his hints will receive due consideration.

Seeds Expected.—In reply to inquiries, we state that it is our design to have on hand a full assortment of choice garden seeds again, as soon as the new importations can arrive—say by the 1st of March, or before.

The Wool-growers' convention, to be holden at Steubenville, on the 10th inst., we learn is likely to be well attended. See 1st page.

A Bargain in Illinois.—Read the advertisement of Mr. Wellman, in this paper.

Allen's "American Agriculture."—Our thanks are due to the author and publishers for a copy of this work. We have not yet had time to examine more than the first two or three chapters; these we are much pleased with, and have given one "on Soils" in another part of this paper. We shall speak of the work again, and in the mean time we hope our booksellers will obtain the work on sale. Shall notice other publications in our next.

The Legislature.

No measure having direct reference to agriculture, has yet passed the General Assembly, but several important bills are under consideration. One of these, "to amend the act for the encouragement of Agriculture," passed last year, was prepared at a joint meeting of the two committees, in answer to the memorial or resolutions of the State Board, and is a measure of very great importance to the future progress of the work of improvement but just begun in this State. For without the passage of this bill we doubt whether the organization of the Board will be sustained another year; and we are quite sure it will not accomplish any thing of value. The bill provides for reducing the number of members to ten, and allowing them the same compensation, when attending the meetings, as is paid the members of the Legislature.

"A bill for the prevention of hydrophobia, and the destruction of sheep by dogs," has been introduced. Instead of proposing a tax as was tried last winter, it simply provides that any person may kill dogs when running at large without being muzzled, or accompanied by their owners. It is impossible to say what its fate will be, but it would pass if the farmers would speak in *earnest tones* on the subject of their grievances.

The Report of the Board of Agriculture has been distributed pretty freely by the members, 5,000 copies having been printed by the Legislature for that purpose—part of them in the German language. We may notice the report—in our next.

Errors.—We notice a number of typographical errors in the report of the Board, which were not corrected until a large part of the edition was printed. Among these is one in the first paragraph of the remarks of Mr. Shaw on Fairfield county, p. 35, where the word "blackberry" should read *hack-berry*. Also, in the remarks of Mr. Breck, on Cuyahoga county, 6th paragraph, last line, the word "improvements" should read *implements*. These and other errors were corrected in the copies last printed.

Marl Beds in Ohio—need of Analyses.

What would the Board do with $50 ?

We have several times been asked by members of the Legislature, what the State Board of Agriculture proposed to do with the five hundred dollars asked to be appropriated from the treasury for its use. Sure enough ! Of what importance is the business of improving the Agriculture of Ohio, that we should vote the *enormous* sum of *five hundred dollars* to be expended for the purpose; and that too without being shown exactly in what manner the money is to be expended ! We will not give expression to the thoughts that arise in our mind on contemplating such superlative wisdom and statesmanship on the part of some of the Solons of this great Agricultural State; as our language would be sure to give offence. Were the sum named *five thousand*, instead of five hundred dollars, there might be some reason for such an inquiry; or were the money to be placed in the hands of those in whose judgement and integrity the public had not ground for confidence.

We took up our pen simply to allude to one subject, the investigation of which by the Board of Agriculture would doubtless add millions of dollars to the productive wealth of the State; while at the same time it would incur an expenditure of at least all the surplus the Board may have to spare of the $50). We allude to the examination and analyses of the beds of *Marl* that exist in various parts of the State, and the diffusion of practical instructions in regard to the application and value of calcareous manures generally for the restoration and increase of the fertility of our wheat lands. An instance of the necessity that exists for such information was given in the case of Mr. Sarchet of Guernsey county, in our paper of Jan. 1. We now append an extract from Dr. Locke's portion of the Geological report made to the General Assembly in 1838–9.

(Remarks of Dr Locke on the Blue Limestone region, and the use of Marl.)

Many persons suppose that it is the business of the geologist to find gold and silver mines, and that he renders no service to the State unless he does that. While on my excursions, I got out of all patience with being asked if I was hunting for "*goold*." The State of Ohio has the richest gold mines in the world in the great fertility of her soil, and any geologist who should suggest the means of perpetuating or improving so invaluable a blessing, would confer a greater benefit on the State than by discovering a gold mine to turn the brains and corrupt the morals of the community.

I beg leave to make the following *suggestions* with regard to the nature of our soil, and the use of calcareous manures.

It is the opinion of geologists, that the character of a soil is determined by the rocks which lie underneath it, the soil being formed by the disintegration or decay of those rocks. This, though generally true, has numerous exceptions. The soil in the southwest portion of Ohio has been formed mostly from rocks and marl, identical with those which now lie beneath it, except where it has been brought and deposited by waters, forming what is called alluvium or diluvium. But the soil formed by disintegration does not contain, at the surface, so much lime as we should anticipate; and rarely, if ever, where undisturbed, does it effervesce or foam with acids. On the tops of the hills around Cincinnati, the loam lies 7 to 9 feet deep before any stone are mingled with it, *and this loam is not effervescent with acids.* But as soon as a layer of stone has been passed, all below it is highly so. I have observed the same fact in other situations remote from each other. It would seem there is a kind of *bleaching* process by which lime is dissolved and removed from the upper part of the soil. The carbonic acid formed by vegetable decomposition, and entering the ground with the water of rains, dissolves limestone, and carries it off in the form of "limestone water," *bicarbonate of lime.*

The vegetable acids which exist in the natural juices of plants become saturated with lime as they pass through it, and form soluble salts, which are washed a-

way by the rains. These causes, operating for ages, have evidently bleached the surface, especially on the table lands, till, in my opinion, there is an absolute want of calcareous matter. If this is the fact, the clay marl found every where between the layers of rocks, would be a beneficial manure, and burnt slaked lime would be still more useful, and would undoubtedly renovate the wheat and grass lands, which, on the table lands, are to some extent worn out.

But in applying calcareous manures, care should be taken that vegetable matter be also supplied, as by direct application or by ploughing under a clover crop. This is no place for a treatise on calcareous manures, and those who wish for information will find abundant interest in most of the popular works on the subject.

An Experiment with Lime.

Mr. Bateham:—As inquiries have been made in the Cultivator, for information in regard to the use of lime on land, I will give you the results of my experience. I have a field of seven acres, a sandy loam, the original timber white oak with an occasional sugar-tree. In the spring of 1844, I spread on three acres of this, 400 bushels of slacked lime, then plowed the whole field and sowed it with oats and clover. The latter was killed by drought, but the former was a good crop. In the fall I plowed in the stubble and sowed the field with wheat, of the Mediterranean and red-chaff-bearded varieties; both sown on the same day and in the same manner, on the limed and the unlimed ground; the former variety produced a tolerable crop, uninjured by fly or rust; while the latter was very poor, being much injured by both these evils. There was no perceptible difference in the oats or the wheat between the produce of the limed and the unlimed ground.

Respectfully, &c.

J. T. R.

Senecaville, Guernsey Co. O., Jan. 1847.

Remarks.—Our thanks are due to the writer of the foregoing, for sending us the result of his experience. We should be glad if all of our readers would do so more frequently, whether they are successful or otherwise. There are two circumstances that might account for the failure of the lime, or its producing no effects on the crops in the above case. The first and most probable one is, a lack of vegetable matter in the soil at the time the lime was applied. Had the lime been sown on sward land broken up, or had the clover crop not have failed, we presume its effects would have been manifest; and even now we are inclined to think the benefits of the lime will appear, unless it should turn out that the soil was already sufficiently supplied with this element; which we think is not very likely to be the case, from the discription.—Ed.

How to prevent Disease in Sheep.

Mr. Bateham:—One of your correspondents proposes giving salt pork to sheep to cure the rot, and another proposes putting tar on their noses once a month, &c. &c. Now to my mind these prescriptions are about as rational as to set a fleece of wool before a hungry man who is perishing from famine. Sheep raising has been my principal business for the past sixteen years, and there never has been any disease among them within my knowledge. My motto is, "an ounce of prevention is better than a pound of cure," and my remedy against all diseases of sheep is, to give them plenty of good pasture, with water, shade and salt, in summer; and in winter the addition of hay, grain and shelter.

W. L. Thorn.

Mahoning Co. O., Jan. 1847.

(☞ This date was printed *Washington* county, by mistake in our last.—Ed.)

Sweeney in Horses.

I have a recipe for curing sweeney that I got hold of the other day, accidentally, just in time to cure a horse of mine that was taken very lame. And by the by, I got it for the trifling sum of 75 cts. I look upon it as being ahead of anything of the kind that is going; two or three applications being sufficient for my horse, and he was apparently well in two days.

Take the proportion of one pint of spirits of turpentine, one ounce of Spanish flies, half a pound of lard, half a pound of rosin. Melt the lard and rosin together; when partly cool, put the other two ingredients in and shake till thoroughly mixed.

I suppose that it is always well to bleed for the sweeney the first thing. To apply the mixture, shake it well and rub it in well with the hand, so as to get it into the hair thoroughly.—Apply it freely to the part affected once in two days. In hot weather let the animal stand in the sun, in cold, heat it with a hot iron. It is perfectly safe and sure, and leaves no mark other than to take the hair off, which comes on again directly.—*Correspondence of the Prairie Farmer.*

The Ohio Legislature will adjourn on the 8th inst.—perhaps.

LADIES' DEPARTMENT.

We cheerfully comply with the request of a kind-hearted friend who has desired to see the following extract in our columns. It is from Tupper's *Proverbial Philosophy.*

—

Of Cruelty to Animals.

Shame upon thee, savage monarch-man, proud monopolist of reason;
Shame upon Creation's lord, the fierce ensanguined despot:
What, man! are there not enough, hunger, and diseases and fatigue,—
And yet must thy goad or thy thong add another sorrow to existence?
What! art thou not content thy sin hath dragged down suffersng and death
On the poor dumb servants of thy comfort, and yet must thou rack them with thy spite?
The prodigal heir of creation hath gambled away his all,
Shall he add torment to the bondage that is galling his forfeit serfs?
The leader in nature's pæn himself hath marred her psaltery,
Shall he multiply the din of discord by overstraining all the strings?
The rebel hath fortified his stronghold, shutting in his vassals with him—
Shall he aggravate the woes of the besieged by oppression from within?
Thou twice deformed image of thy Maker, thou hateful representative of Love,
For very shame be merciful, be kind unto the creatures thou hast ruined;
Earth and her million tribes are cursed for thy sake;
Earth and her million tribes still writhe beneath thy cruelty:

Liveth there but one among the million that shall not bear witness against thee,
A pensioner of land or air or sea, that hath not whereof it will accuse thee?
From the elephant toiling at a launch, to the shrew mouse in the harvest field,
From the whale which the harpooner hath stricken, to the minnow caught upon a pin,
From the albatros wearied in its flight, to the wren in her covered nest,
From the death-moth and lace-winged dragon-fly, to the lady-bird and the gnat,
The verdict of all things is unanimous, finding their master cruel:
The dog, thy humble friend, thy trusting, honest friend;
The ass, thine uncomplaining slave, drudging from morn to even;
The lamb, and the timorous hare, and the laboring ox at plough;
The speckled trout, basking in the shallow, and the partridge, gleaning in the stubble,
And the stag at bay, and the worm in thy path, and the wild bird pining in captivity,
And all things that minister alike to thy life and thy comfort and thy pride,
Testify with one sad voice that man is a cruel master.

Verily, they are all thine: freely mayst thou serve thee of them all:
They are thine by gift for thy needs, to be used in all gratitude and kindness:
Gratitude to their God and thine,—their Father and thy Father,
Kindness to them who toil for thee, and help thee with their all:
For meat, but not by wantonness of slaying: for burden, but with limits of humanity;
For luxury, but not through torture; for draught, but according to the strength:
For a dog cannot plead his own right nor render a reason for exemption,
Nor give a soft answer unto wrath, to turn aside the undeserved lash;
The galled ox cannot complain, nor supplicate a moment's respite;
The spent horse hideth his distress, till he panteth out his spirit at the goal;
Also, in the winter of life, when worn by constant toil,
If ingratitude forget his services, he cannot bring them to remembrance;
Behold, he is faint with hunger; the big tear standeth in his eye;
His skin is sore with stripes, and he tottereth beneath his burden;
His limbs are stiff with age, his sinews have lost their vigor,
And pain is stamped upon his face, while he wrestleth unequally with toil;
Yet once more mutely and meekly endureth he the crushing blow;
That struggle hath cracked his heart-strings,—the generous brute is dead!
Liveth there no advocate for him? no judge to avenge his wrongs?
No voice that shall be heard in his defence? no sentence to be passed on his oppressor?
Yea, the sad eye of the tortured pleadeth pathetically for him:
Yea, all the justice in heaven is roused in indignation at his woes:
Yea, all the pity upon earth shall call down a curse upon the cruel:
Yea, the burning malice of the wicked is their own exceeding punishment.
The Angel of Mercy stoppeth not to comfort, but passeth by on the other side,
And hath no tear to shed when a cruel man is damned.

Erroneous Names of Fruit.

Among the first beneficial results to be expected from the increase of general interest in the subject of horticulture, is the extrication of the *nomenclature* of our fruits from the confusion in which it has hitherto been involved. It is gratifying to observe the spirited efforts which are being put forth in this work at the present time, by a number of intelligent nurserymen and fruit culturists; and with the aid of the horticultural societies now formed in five or six of our principal towns, it may reasonably be hoped that but a few years will elapse before this work will be accomplished.

We gave several valuable articles on this subject in our last number; and we now add a communication from our friend F. R. Elliott, of the Lake Erie Nursery, who is rendering good service in this cause. We hope those who have good fruits in that part of the state, of which the names are in doubt, will comply with his request and send specimens for examination:

Pomological Scraps.

Senor Bateham:—We have been receiving specimen fruits from many different sections of the State, during the past season, up to this time. One object in inducing the sending of specimens of fruit to us, has been, that we might assist in a measure toward the correcting some of the many erroneous names with which our fruits in this state abound, and also to identifying if possible many that are cultivated without names. Ere we go farther, permit us to say to your readers, that if they will at any time, now or during the coming year, forward to us specimens of fruits about which there is any doubt as to the correctness of name, we shall be pleased to receive them, and by examination and comparison furnish, if possible, the sender with the *true* name.

All probably know the little red apple that keeps so well, usually known in Ohio as the *Romanite*; we have them bearing in our own grounds and have had specimens sent us from many different persons, with the expression, "It is not the Romanite, synonyma of Rambo, vide, Downing's Fruit Trees, &c., and we wish to know what it is?" To which we answer it is the "*Gilpin*" described by Downing. It should at once receive its true name, for at the present time a man little acquainted with fruits and knowing the Rambo as well as this apple called Romanite—which is a synonyma—might order trees under both names and from a correct nurseryman would receive only one (the Rambo) apple.

We have had the "*Detroit red*" sent us several times under the name of Black apple. It may readily be distinguished from the Black, by a reddish tinge, or reddish streaks, peculiar to the flesh—It is, in no way equal to the Black apple for culture or use.

You may perhaps recollect that in the "Statesman" of January 1844, if we are correct, there was a notice by the Editor, of an apple under name "*Ramboulet.*" We have examined specimens this season from the same tree, from whence Mr. Medary's specimens were gathered, [Judge Wood's, near Cleveland,] and we consider it to be the "*Domine.*' It is hardly to be distinguished from the Rambo in outward appearance, but it is somewhat larger, the flesh is more sprightly, and its keeping qualities superior—being in perfection from December to March. The name Ramboulet was probably given the fruit by the "travelling grafter" for want of other knowledge.

We have examined a great many specimens of the "*Baldwin*" apple this year, but find all more or less affected with the dry bitter rot. Can you or your readers tell us if the same effect relative to this fruit is exhibited when grown farther South?

Of Newtown Pippins we have a large number sent us, and in seven cases out of ten, we find the Yellow Newtown, is cultivated as the "Green." So far as we have received, we have corrected this error.

Respectfully,

Elliot & Co.

Lake Erie Nursery, Cleveland, Jan. 1847.

Important English news will be found on our last page.

The next New York State Fair is to be at Saratoga Springs.

Letter from Samuel Williams.

Waterloo N. Y., January, 1847.

M. B. Bateham:—*Respected Friend*—Your Cultivator of the 1st inst., owing to the use of small type, contains so much more matter than usual, that I could but feel, that its Editor, and compositors, enjoy any thing but a sinecure at the hands of its subscribers.

I am glad to see you have so many truly practical farmers in Ohio, who are willing to learn what science can do for them in their great calling. Give me the man who contrives to carry his grist to mill without putting the *old stone* in one end of the bag—who never plants in the moon, unless the moon rises early, the weather is good, and the soil is fitted right to receive the seed.

I am glad you are taking up the subject of subsoiling and ditching; what is your *modus operandi*, in plowing your little ten acres, 13 to 16 inches deep?* there are some here, who begin to understand, that in our alluvial country, one farm at least may lay below the original worn-out surface. The sub-soil excavated in making a ditch, in digging a well, or a cellar, is full of those phosphates of lime, soda, and potash, without which no perfect wheat can be grown. I notice the inquiries of your correspondent D. Sarchet; on such land as he describes our farmers sow their wheat on narrow crowning lands, or beds, nine feet apart, the deep furrows between are kept open with the hoe; now and then a deep ditch is dug across the field to hold and evaporate surplus water. Ditching performs a two fold office on heavy clay soils; it takes off surplus water, and makes the soil more loose and friable, capable of retaining water by that capillary attraction, which alone enables the soil to withstand both wet, and drought. But good, thorough farming in Seneca county, is far from being general; thousands of acres of the finest soil lies sward bound and weedy, producing a little grass in wet seasons. Other thousands of acres pretended to be tilled, is only scratched over, the crops badly put in, and worse tended. Instead of subdividing farms, and working the land more and better; consolidation is continually extending itself, as the sands of the desert, extend the domain of barrenness!! When I hear a farmer complain that the worms eat up his crop; thinks I to myself, if this man was reduced to Bateham's 10 acres, he would have no place to hibernate his worms, as they cannot stand the frosts of winter under any other, than a sward bound covering.

'Tis said that there are fashions in physic—there certainly are in farming; it is now the fashion for farmers to expatriate their sons and daughters, by sending them as soon as they attain their majority, into the wilderness to toil and to suffer. But the philosopher may say, this is the romance of living, as every thing proves that delusion is the spice of life.

In a trip to New England, early this fall, I was more than ever impressed with the true value of the great alluvial west. At Newport, R. I., in the vicinity of the Ocean, the grass was beautifully green—but as soon as we receded from the muriatic vapour, beyond the reach of sea manure, all was barrenness again; sandy plains, primitive rock, and detritus; the best piece of corn I saw seventeen miles north of Providence, was grown upon an unbroken piece of land, which was cleared of its forest trees 14 years ago, it had since been plowed but three times; the present crop planted on old sward, yielded but 5 bushels to the acre, with the aid of a shovel full of manure to each hill, and the best of tillage.

But I saw one Oasis in the desert; the farm of Adam Anthony 2 0 acres, two miles out of Providence; it has been redeemed from a barren sand, by the aid of 200 bus. leached ashes to the acre; millet and clover, dried peat, mixed with the daily excrements of 40 milch cows, had now enabled this farm to produce three tons of hay, or seventy bushels of corn to the acre; he makes 1700 loads of manure yearly.

Despite the premature barrenness of New England soil, the evidence of industry and wealth meet you at every step. The whole length of the Blackstone is almost a continuous manufacturing town; with a magnificent rail road in progress along the old line of canal from Providence to Worcester. * * * *

Very truly yours,

Samuel Williams.

* We never told you, friend Williams, that our "little farm" comprised "ten acres"; If it did, we should not allow it to be called little; for we make our acres very large by increasing their depth! Our "modus operandi" is, when plowing, to have a second team, with a good sub-soil plow, (of the Boston pattern) follow in the furrow directly after the common plow—as was illustrated by engravings in our paper of April 15th. (Vol. 2, p. 57.)—Ed.

On the use of Lime and Ashes.

Friend M. B. Bateham.—I observe in No. 1, of Vol. 3, of Ohio Cultivator, some inquiries signed "I. W. B." Harrison Co., and "A young Farmer," Medina Co., which I shall endeavor to answer—This I undertake with some diffidence, being aware of my incompetency to instruct to any great extent; yet, being in possession of some facts both from my own experience and that of others in the use of lime and ashes, I feel willing to communicate them.

1st. In regard to applying lime in the winter season—I may state that I spread some 2500 or 3000 bus. in the depth of last winter on clover and wheat, the effect on the clover, fully came up to my most sanguine expectations, yielding more than double the amount of hay and pasture, that I obtained off the same number of acres of the same quality of land without the application of lime or other manure.—I could not see much difference in the wheat; there was a very strong growth of grass, however, which leads me to the conclusion that those who wish to see immediate effects had better apply lime to grass than to wheat—and consequently that I. W. B. had better spread his now, on the ground that he designs for wheat the coming season; this will produce a luxuriant crop of grass, which should be plowed under about the 1st. of 6 mo. (June,) and stirred just before sowing in the fall. This is the mode adopted by the best farmers with whom I am acquainted, and I think can be philosophically proven to be the best—The opinion of some of your last year's correspondents to the contrary notwithstanding.

The substance used by us designated common lime, is the air slacked or carbonate of lime,* Gypsum or Plaster Paris being the sulphate of lime. The organic constituents of all plants are hydrogen, oxygen carbon and nitrogen, the two first form water, and two second carbonic acid, the first and last ammonia. Water, carbonic acid and ammonia, then, or their elements, compose the organic part of all plants—Lime, according to Dana, acts as a neutralizer, a decomposer, and a converter—neutralizes acid geine, decomposes metalic substances, and converts insoluble or solid vegetable fibre into soluble vegetable food. Now add the acid geine, &c., contained in a luxurient crop of clover or other grass, to the metalic substances of the soil, and we have a vast field for the action of this great agent, hence the policy of excluding the vegetable matter from the action of the air, &c., and turning it up in connection with the lime just at the time you want those properties made available food for the young plant.

2d. In regard to the worth of leached ashes, according to chemical analysis, that part which is soluble in water contains but three ingredients; sulphuric acid, muriatic acid, and potash—which are not contained in the insoluble. Some chemists, therefore, conclude that where soap boilers have used lime with the ashes to strengthen the lie, that leached are worth nearly as much as unleached ashes.

3d. Will lime destroy the Hessian fly? I think not, except some few which might possibly come in contact with it in a caustic state. It may however be of service in enabling the plant by a vigorous effort in the spring to overcome the depredations committed in the fall.

Ashes are recommended by chemists, both theoretically and practically, as an excellent manure for almost any soil in our State; 50 bus. per. acre producing very visible and decidedly favorable results; therefore I. W. B. had undoubtedly better haul the ashes.

Respectfully submitted,

J. D. Ladd.

Richmond, Jefferson Co. O., 1mo. 1847.

* Lime directly becomes carbonate by absorbing carbonic acid from the air.

For the Ohio Cultivator.

The Farmer's Weather-ometer.--No. 2.

Comprising General Indications and Local Predictions respecting the Changes of Weather, gathered during Travels in America and Europe.

BY A RURALIST.

The affluent farmer, who possesses a barometer, is materially benefitted by it, regaining that foreknowledge of the weather which the ancients are said to have possessed. Of all indications it seems that those of the barometer are most certain. For the benefit of the farmer I will number the remarks respecting this invaluable instrument.

1. Towards the end of March, or more generally in the beginning of April, the barometer sinks very low in bad weather, after which it seldom falls lower than 29 degrees 5 minutes, till the latter end of September or October, when the quick-silver falls again low with stormy wind, for then the winter constitution of the air takes place. From October to April, the great falls of the barometer are from 29 degrees 5 minutes to 18 degrees 5 minutes, and sometimes lower: whereas, during the summer constitution of the air, the quicksilver seldom falls lower than 29 degrees 5 minutes. It therefore follows, that the fall of one-tenth of an inch during the summer, is as sure an indication of rain as a fall of between two and three tenths in the winter.

2. If the mercury rises in the barometer (generally,) it indicates fair weather; if it falls, it (generally,) presages rain, snow, wind, or storms.

3. In very hot weather, the falling of the mercury foretells a thunder storm.

4. In the winter the rising of the mercury presages frost. In frosty weather, if the murcury falls 3 or 4 divisions, you may expect a thaw; but in a continued frost, if the mercury rises, it will certainly snow.

5. If the mercury falls and wet weather *quickly* succeeds, expect but little rain If it becomes fair *immediately* after the mercury has risen, it will not remain fair long.

6. In wet weather, if the mercury rises *highly*, and so continues for two or three days before the wet weather is over, you may promise a continuance of fair weather.

7. In fair weather, if the mercury falls much and slowly, and so continues before the rain sets in, you may prepare for a good deal of wet weather.

8. In winter, spring and autumn, if the mercury falls *suddenly* and *lowly*, high winds and storms may be looked for, but in summer it presages heavy thunder showers.

9. The mercury sinks lowest of all for great *wind* storms, either accompanied with rain or not.

10. If, after rain, the wind changes to any part of the north, and the sky clears and the mercury rises, you are sure to have clear weather.

11. The mercury rises highest with an easterly or north-easterly wind, and sometimes it rains or snows, (the wind being in one of these quarters,) *while the mercury is rising*. In all other points of the compass the mercury sinks for strong wind, whether it rains or not.

12. In a wet season *very small* depressions of the mercury must be noticed and obeyed in indicating, if the changes are important.

13. If the wind is from the south when the mercury suddenly falls, in very hot weather, a thunder storm may more certainly be expected.

14. The unsettled motion of the mercury indicates changeable weather.

15. As the barometer usually rises more or less in the morning till 9 or 10 o'clock, and falls till 2 or 4 o'clock, to ascend afterward, any movement contrary to this course indicates probable change of weather.

16. Persons who have occasion to travel much in the winter, and who are doubtful whether it will rain or snow, may easily ascertain this point by the following observation—A few hours before he departs, let the traveller notice the mercury in the upper part of the tube of the barometer—if rain or snow is about to fall, it will be indented or concave—if otherwise, it will be convex or protuberant.

17. Samuel Forry, in his "Meteorology," says—"No comprehensive estimate of the phenomena depending on the atmosphere can be made unless at least five barometrical observations are taken daily. The following hours have been generally adopted as giving most satisfactory results:—at 3 or 4 o'clock A. M.,—at 3 o'clock P. M., and at 9 A. M.,—at 9 or 10 P. M., and at noon."

18. Those farmers, who have not an instrument, may thus construct a simple barometer. Take a good pair of scales. Place in one scale a brass weight of one pound—in the other a pound of salt, or salt petre well dried. Place a stand beneath the scale to prevent it from falling too low. When rain is approaching the salt will swell and sink the scale,—and, as the weather grows fair, the brass will regain its ascendency.

Lancaster, Ohio.

From Allen's American Agriculture.

On Soils.

Soils are those portions of the earth's surface, which contain a mixture of mineral and vegetable or animal substances, in such proportions as adapt them to the support of vegitation. Rocks are the original basis of all soils, which by the convulsions of nature, or the less violent but long continued and equally efficient action of air, moisture and frost, have been broken into fragments more or less minute. There are various gradations of these changes.

The texture of Soils.—Some rocks exist in large boulders or rounded stones, that thickly overspread the surface and mingle themselves with the earth beneath it, giving to it the name of rocky soil. The smaller sizes but equal prevalence of the same materials, give to the surface where they abound, the character of a stony soil. A third and more minute division is called a gravelly soil; a fourth is sandy soil; a fifth constitutes a loam ; and a sixth, in which the particles of earth are reduced to their greatest fineness, is known under the name of clay soil. The two first mentioned, are not properly distinct soils, as the only support of any profitable vegetation, is to be found in the finer earth, in which the rocks and stones are embedded. In frequent instances, they materially benefit the crops, in the influence produced by the shade, moisture, and protection from winds, afforded by them ; and by the gradual decomposition of such as contain lime, potash and other fertilising materials, they contribute to the support of the soil. This last effect is aided by the apparently worthless vegetable life which they yield to the living mosses that cling to their sides and every where penetrate their fissures, thus imperceptibly corroding the solid structures and preparing them for future usefulness as soils. If we add to the above, a peat or vegitable soil, we shall have the material divisions of soils, as distinguished by their texture.

Other classifications of Soils.—Soils are also distinguished by their tendency to absorb and retain water, gravel and sand holding very little, while clay and peat readily absorb and retain a great deal . by their constant saturation from perennial springs, which are called springy soils; by the quantity of vegetable and animal matter they contain ; by their porosity or adhesiveness ; by their chemical character, whether silicious, argillaceous or calcareous ; by the quality and nature of the vegetation they sustain; and lastly, and by far the most important, they are distinguished by their fertility or barren-

ness, the result of the proper adjustment and combination of most of the conditions enumerated. Deserts of sands, layers of rocks, stone or pure gravel, and beds of marl and peat are not soils, though containing many of their most important elements.

It is apparent to the most casual observer, that soils most frequently and by almost imperceptible degrees, change from one character to another, and that no classification therefore, however minute, will suffice to distinguish each. Some obvious yet simple distinctions, which are usually recognised, must nevertheless be assumed for future reference. For this purpose, and to avoid unnecessary deviations from what should be a common standard, we shall adopt the arrangements as made by Professor Johnston, which is based principally upon their chemical constituents.

"1 DEG. *Pure clay* (pipe-clay) consisting of about 60 of silica and 40 alumina and oxide of iron, for the *most part* chemically combined. It allows no silicious sand to subside when diffused through water, and rarely forms any extent of soil.

"2 DEG. *Strongest clay soil* (tile-clay, unctuous clay) consists of pure clay mixed with from 5 to 15 per cent. of a silicious sand, which can be separated from it by boiling and decantation.

"3 DEG. *Clay loam* differs from a clay soil, in allowing from 15 to 30 per cent. of a fine sand to be separated from it by washing, as above described. By this admixture of sand, to its parts are mechanically separated, and hence its freer and more friable nature.

"4 DEG. A *loamy soil* deposits from 30 to 60 per cent. of sand by mechanical washing.

"5 DEG. A *sandy loam* leaves from 60 to 90 per cent. of sand, and

"6 DEG. A *sandy soil* contains no more than 10 per cent. pure clay.

"The mode of examining with the view of naming soils, as above, is very simple. It is only necessary to spread a weighed quantity of the soil in a thin layer upon writing paper, and, to dry it for an hour or two in an oven or upon a hot plate, the heat of which is not sufficient to discolor the paper—the loss of weight gives the water it contained. While this is drying, a second weighed portion may be boiled or otherwise thoroughly incorporated with water, and the whole then poured into a vessel, in which the heavy sandy parts are allowed to subside until the fine clay is beginning to settle also. This point must be carefully watched, the liquid then poured off, the sand collected, dried as before upon paper, and again weighed. This weight is the quantity of sand in the known weight of *moist* soil, which by the previous experiment has been found to contain a certian quantity of water.

"Thus, suppose two portions, each 200 grs., are weighed and the one in the oven looses 50 grs. of water, and the other leaves 60 grs. sand,—then the 200 grs. *moist* are equal to 150 of *dry*, and this 150 dry soil contain 60 of sand, or 40 in 100 (40 per cent.. It would, therefore, be properly called a *loam*, or *loamy* soil.

"But the above classification has reference only to the clay and sand, while we know that lime is an important constituent of soils of which they are seldom entirely destitute. We have, therefore,

"7 DEG. *Marly soils*, in which the proportion of lime is more than 5 but does not exceed 20 per cent. of the whole weight of the dry soil. The marl is a sandy, loamy, or cly marl, according as the proportion of clay it contains would place it under the one or other denomination, supposing it to be entirely free from lime, or not to contain more than 5 per cent., and

"8 DEG. *Calcareous soils*, in which the lime exceeding 20 per cent. becomes the distinguishing constituent.—These are also calcareous loams, or calcareous sands, according to the proportion of clay and sand which are present in them.

"The determination of the lime also, when it exceeds 5 per cent., is attended with no difficulty.

"To 100 grs. dry soil diffused through half a pint of cold water, add half a wine-glass full of muriatic acid (the spirit of salt of the shops, stir it occasionally during the day, and let it stand over night to settle. Pour off the clear liquor in the morning and fill up the vessel with water, to wash away the excess of acid. When the water is again clear, pour it off, dry the soil and weigh it—the loss will amount generally to about one per cent. more than the quantity of lime present. The result will be sufficiently near, however for the purposes of classification. If the loss exceed 5 grs. from 100 of the dry soil, it may be classed among the marls, if more than 20 grs. among the calcareous soils.

"Lastly, vegetable matter is sometimes the characteristic of a soil, which gives rise to a further division of

"9 DEG. *Vegetable moulds*, which are of various kinds, from the garden mould, which contains from 5 to 10 per cent., to the peaty soil, in which the organic matter may amount to 60 or 70. These soils also are clayey, loamy, or sandy, according to the predominant character of the earthy damixtures.

"The method of determining the amount of vegetable matter for the purpose of classification, is to dry the soil well in an oven, and weigh it; then to heat it to dull redness over a lamp or a bright fire till the combustible matter is burned away. The loss on again weighing is the quantity of organic matter."

The foregoing are only such general divisions as possess properties sufficiently common to each, to require a treatment nearly similar. Besides their principal component parts, every soil must contain in greater or less quantities, all the elements which enter into the composition of vegetables. They may have certain substances which are not necessary to vegetable life, and some one or all of such as are, may be contained in excess; yet to sustain a healthy prolific vegetation they must hold, and in a form fitted to its support, silex alumina. carbonate of lime, sulphate of lime, potash, soda, magnesia. sulphur, phosphorus, oxide of iron, manganese, cholorine, and probably iodine. These are called the inorganic, or earthy parts of the soils, as they are found almost exclusively in combination with earths, salts, or minerals. They however constitute from less than 0.5 (one half of one) to over 10 per cent. of all vegetables. In addition to these, fertile soils must also contain, carbon, oxygen, nitrogen and hydrogen, which are called the organic parts of soils, from their great preponderance in vegetables and animals, of which they constitute from about 90, to over 99 per cent. of their entire substance.

CLAY SOILS—THEIR CHARACTERISTICS AND TREATMENT.—Clay soils are usually denominated cold and wet, from their strong affinity to water, which they generally hold in too great excess for rapid or luxuriant vegetation.—The alumania which exists in clay, not only combines with water forming a chemical compound, but the minute division of its particles and their consequent compactness oppose serious obstacles to the escape of such as rests in or upon it. Hence the necessity of placing it in a condition to obviate these essential defects.

The most effectual method of disposing of the surplus water in clay soils, is by underdraining. This draws off rapidly yet by imperceptible degrees, all the excess of water, and opens it to the free admission of atmospheric air; and this, in its passage through the soil, imparts heat and such of the gasses it contains, as are useful in sustaining vegetation. When these are not constructed, open drains should be formed wherever water stands after rains The slight elevation and depression of the surface made by careful plowing, will probably be sufficient, if they terminate in some ravine or artificial ditch, and have size and declivity enough to pass off the water rapidly.

Clay soils are greatly improved by coarse vegetable manures, straw, corn-stalks, chips, &c., which tend to the separation of its particles. The addition of sand is very beneficial, but this is too expensive for large fields. Lime is also a valuable material for a clay soil, as by the chemical combinations which are thereby induced, the extreme tenancy of the soil is broken up, while the lime adds an ingredient of fertility, not before possessed by it perhaps, to an adequate extent. Gypsum has the same effect in a more powerful degree. Paring and burning (by which the surface containing vegitable matter if collected into heaps and fired, reducing the mass to a charred heap, which is again spread over and mixed with the soil,) produce the same result. This is a practice which has been in use in different parts of Europe, and although attended with immediate and powerful results, it is too expensive for general introduction into a country, where labour is high, and land and its products comparatively cheap.

The plowing of clay lands for spring crops should be done in the autumn if practicable, by which the adhesiveness is temporarily destroyed, the earth is finely pulverised by the frost, and they are left in the finest condition for early spring sowing and without additional working. If plowed in the spring, it should be done when they are neither too wet or dry; if the former, the earth subsequently bakes, and for a long time it is impenetrable to the hoe or the teeth of the harrow; if too dry, they are so compact as to be turned over only with great effort, and then in solid lumps. The action of the atmosphere, will pulverize these masses of baked earth after a time, but not sufficiently early for the convenience or advantage of such crops as are intended immediately to follow the plowing.

No soils are so tenacious of the manures which may be incorporated with them as the clays. They form an intimate combination, both mechanical and chemical, and hold them securely against waste from drainage or evaporation for an indefinate time, till the growing crops demand them. They also greedily sieze upon and hoard up all such fertilizing principles as are conveyed to them by the air and rains. We may mention as an example of their efficiency in abstracting vegetable nutrition from the atmosphere, that many of them when thrown up from a great depth below the surface, and entirely destitute of organic remains, (vegetable or animal matter,) after an exposure for some months to its meliorating influence, became capable of bearing large crops without the aid of manure. This is particularly true of the clays which rest on the Onondaga limestone, an extensive group occupying the central and north-western part of New York.

The clays are admirably adapted to the production of most of the grains; and the red and white clovers cultivated in the United States. These they yield in great profusion and of the best quality; and so peculiarily suited are they to meadows and pasturage, that they are styled by way of eminence, *grass lands*. They are justly characterised as strong and lasting soils, and when properly managed and put to their appropriate use, they are esteemed as among the choisest of the farmer's acres.

SANDY SOILS AND THEIR MANAGEMENT.—The character and treatment of sandy soils, are in almost every particular the reverse of those of clay. They do not possess the property of adhesiveness, and they have but little affinity for water, which escapes from them almost as soon as it falls. They have but a slight hold upon the manures which are diffused through them; they are loose in the texture, and may be plowed at any time with equal advantage, provided the sowing or planting is to follow immediately.

As clay soils are much benefited by a mixture of sand, so likewise are sandy soils greatly improved by the addition of clay, yet in a much higher degree; for though it would never pay, as a general rule, to add sand to clay, yet the addition of a few loads of the stiffest clay to a light sand, would in almost every instance much more than compensate for the trouble and expense. For this purpose, the clay should be thinly spread in autumn upon sward land previously plowed, and the winter's frost will effectually separate the particles. It should then be harrowed thoroughly and deeply in the spring, and subsequently plowed if necessary. Such a dressing on a light crawling land, is more than equivalent to an equal quantity of the best manure, and will be permanent in its effects. Clay and sand are necessary to each other, as they both contain qualities which are essential to good soil; and that will always be found the best, which has the proper proportion of each.

Sandy soils are improved by the frequent use of a heavy roller: it cannot be used too often. They require to be made more compact, and any treatment that secures this object, will be advantageous.

Lime, by its chemical action on the constituents of soils, while it separates clay, renders sand more adhesive; and when cheaply obtained, it is always a profitable dressing for sandy, soils to the full amount they may require. Gypsum, in considerable quantities, has an effect similar to lime, both on clay and sand and when added in similar portions, produces a striking increase in the crops of sandy soils. Clay marles containing either carbonate, sulphate, or phosphate of lime, are of great value to sandy soils. Equally beneficial are ashes leached or unleached, peat or vegetable manures of any kind.—Some calcareous sands, containing a large proportion of lime, like those of Egypt and extensive regions in the Barbary States, will produce luxuriantly, if supplied with a slight addition of manure and an abundance of water. Sandy soils can never be profitably cultivated till they have acquired sufficient compactness and fertility to sustain a good growth of grass or clover; and when once brought to this condition, they are among the most valuable.

They are at all times, easily plowed and worked; they require no draining; and though light and dry, are quick and kindly soils, giving an immediate and full return for the labor and measure bestowed upon them. When in a condition to produce grass, sheep are immediately adapted to preserve and augment their fertility, and by their incessant migrations over it the sharp hoofs pack the surface closely, producing the same effect as the roller.

GRAVELLY SOILS, are in some respects similar to sand, but much less desirable, being appropriately termed *hungry*. They are also like the latter, peculiarly leachy, but in an increased degree, permitting the rapid escape of manures both by evaporation and drainage. Such as are calcareous or composed of limestone pebbles, are in a great measure not subject to these objections; as the disposing affinities of the lime, (of which enough will be found to exist in the soil in a finely comminuted or divided state, which in this condition is enabled to act efficiently,) have a tendency to retain the vegetable matters, thus compacting the soil, and holding whatever pabulum or food of plants, may from time to time be given to it for the wants of future crops. Unless of this latte description, gravelly soils, should not be subjected to tillage; but appropriated to pasturage, when sheep will keep them in the best and most profitable condition in which they are capable.

LOAMY SOILS being intermediate between clay and sand, possesses characteristics and require a treatment approximating to one or the other, according to the predominance of either quality. They are among the most desirable soils for the various purposes of agriculture.

MARLY AND CALCAREOUS SOILS, have always a full supply of lime, and like the loams, they frequently incline towards a clay or sand, requiring a treatment corresponding to their character. Putrescent and vegetable manures increase their fertility and they are held with great tenacity till exhausted by crops. In durability and lastingness they cannot be exceeded.

ALLUVIAL SOILS, are such as have been formed from the washing of streams. They vary in their characteristics, from a mixed clay to an almost pure sand; but generally they combine the components of soils in such proportions as are designated by *loamy soils* or *sandy loams*. When thus formed they are exceedingly fertile, and if subject to the annual overflow of a stream, having its sources far above them, they usually receive such an addition to their productiveness, as enables them to yield large crops perpetually without further manuring.

They are for the most part easily worked, and are suit-

ed to the various purposes of tillage and meadows; but when exposed to overflowing, it is safer to keep them in grass, as this crop is less liable to injury by a freshet; and where subject to washing from the same cause, a well matted sod is the best protection which can be offered against it. Many of the natural grasses which come into these meadows yield a fodder of the highest value.

PEATY SOILS. These are composed almost wholly of peat, and are frequently called vegetable soils. They are etensively diffused between the latitudes of 42 DEG. and 6) DEG. north, at a level with the ocean, and are frequently found in much lower latitudes, when the elevation of the surface produces a corresponding temperature. They generally occupy low swampy levels, but sometimes exist on slight northern declivities, where the water in its descent is arrested by a succession of basin shaped cavities.

Their peaty character is acquired by the growth and partial decay through successive ages, of various aquatic plants, the principle being sphagnums and lichens. In swamps, many of which were probably small lakes in their origin the peat is found of an unknown depth, reaching in some instances beyond thirty and forty feet. On declivities and occasional levels, the peat is sometimes only a few inches in thickness. It is of a blackish or dark brown color, and exists in various stages of decay, from the almost perfect state of fallen stumps and leaves, to an imperfectly defined, ligneous mass or even as impalpable powder.

In its natural state, it is totally unfit for any profitable vegetation, being saturated with water, of an antiseptic nature which effectually resisits putrefaction or decay.—When thrown out of its native ed and exposed to drain for a few months, much of it is fit for fuel; and it is always of advantage to the muck heaps, as an absorbent of the liquid and gaseous portions of animal and other velatile manures; or it is a great utility when applied alone to a dry gravelly or sandy soil.

Cultivation of peat soils, When it is desirable to cultivate a peat soil, the first process is to drain it effectually of all the moisture which has given to it and sustained its present character. The drains must be made sufficiently near and on every side of it; and so deep as to prevent any injurious capillary attraction of the water to the surface. When it has been properly drained the hummocks if any, must be cut up with the mattock or spade and thrown into heaps, and burnt after they are sufficiently dried, and the ashes scatterd over the surface. These afford the best top dressing it can receive. Sand or fine gravel, with a thorough dressing of barn yard manure and lime, should then be added. On some of these, according as their composition approaches to ordinary soils, good crops of oats, corn roots, &c., may be grown but they are better suited to meadows, and when thus prepared, they will yield great burthens of clover, timothy, red-top, and such other grsses as are adapted to moist soils. Subsequent dressings of sand, lime, manure and wood ashes, or of all combined, may be afterwards required when the crops are deficient, or the grasses degenerate.

Peat contains a large proportion of carbon, and the silicates in which such soils are deficient, and which they procure only in small proportions from the farm-yard manure, but more largely from the sand or gravel, are essential to furnish an adequate coating for corn stalks, straw, and the valuable grasses. As they are exhausted they must be again supplied or the crops will fail. Besides yielding an important food to the crop, lime is essential to produce decomposition in the mass of vegetable matter, as well as to combine with and aid in furnishing to the growing plants, such of their food as the atmosphere contains. Ashes are one of the best applications, as they possess the silicates, lime, potash, and other inorganic mamaterials in abundance, and in a form readily adapted to vegetable nutrition. Gypsum is also a valuable manure for peaty soils.

Winter Calculations for Farmers.

FUEL.—Every farmer knows that a green stick ofwood is heavier than a seasoned one. If a stick of beech or maple, or any other wood commonly used as fuel, be weighed when first cut, and again when thoroughly seasoned, it will be found to have lost about one third of its weight, which is, of course, the water in the wood, evaporated by drying. How much water is there, then, in a single cord of wood? There are 128 cubic feet; deducting two-fifths for the interstices between the sticks, leaves 77 solid feet of wood. One third, 26 cubic feet of this is water, which is equal to more than six barrels, the quantity in every cord of green wood. The teamster, then, who draws in one winter, a hundred cords of wood to market, loads, draws, and unloads, more than 60) barrels of water, which he need not have done had the wood been cut a year sooner and properly seasoned. How much would he charge for drawing these 6 0 barrels, in water, separately?

Again—In burning green wood, the water, in the wood, being cold, is heated from freezing to boiling, In the consumption of every cord of wood, therefore, six barrels of water are thus made to boil, the heat of the wood passing into the water, instead of being liberated and becoming available, as would be the case if the wood was dry and no water to heat. Many of our villages, containing two or three thousand inhabitants, consume each year five thousand cords of wood, one third of which, at least, or sixteen hundred, is green. Hence, the people of such village are at the needless expense of boiling about ten thousand barrels of cold water yearly. How many village taxes would the expense of doing this, pay?

Again—It is ascertained that the heat required to *evaporate* a barrel of water, *after* it is heated to boiling, is more than five times that required for the heating. That is,—if a vessel of cold water be placed over a fire, and a half hour be required to heat it from the freezing to the boiling point,— then it will be found to require five more half hours to evaporate all the water. Consequently, in burning a cord of green wood, the heat required to drive off the six barrels of water in steam, which must be done while the wood is burning, is five times as great as the mere boiling of the water, or equal to heating thirty barrels to boiling. Hence, the farmer who burns twenty cords of green wood in a winter, as many do, also performs the needless task of evaporating sixty barrels of water, which is equal to heating to the boiling point no less than six hundred barrels.

Is there any mistake or error in these calculations?—Then let it be pointed out. The weight of water in a green stick, may be easily known by first weighing it, then seasoning it by the stove a few weeks, and weiging again. In this way the quantity of water in a cord may be determined without mistake. The heat required for evaporating can be ascertained by experiment. All the other calculations follow as a matter of course, and contain no material error. Now is the time for every one to have his wood cut a year in advance, and, if possible, two years, so as to season one year under shelter.

Again—It has been found that a common *fireplace*, the loss of heat which escapes through the chimney, is nine-tenths of the amount caused by the consumption of the wood; that is, nine-tenths are lost. This has been determined by comparing the quantity of wood needed to heat the same room equally, where a fireplace and a stove with forty feet pipe, were each used. Hence, the village which burns a thousand cords of wood in fire-places, expends nine-tenths of this amount, or nine hundred cords, in heating the air above the chimney-tops. Through the chimney of a large *fireplace*, there is a current of hot air, a foot square, and moving four feet a second. That is, four cubic feet of hot air are sent out into the wide atmosphere every second, which is equal to eighty-six thousand cubic feet in twenty-four hours, the amount which every farmer, who uses an open fire-place, contributes to the winds.

FEEDING DOMESTIC ANIMALS—If one cow daily treads three pounds of hay under foot in the mud, she will waste about one hundred pounds per month; or a herd of twenty cows would waste a ton per month. At this rate, how many times, every ten years, would the quantity wasted pay the expense of making feeding boxes and racks?

WATERING CATTLE—Many farmers suffer a loss by not providing good and convenient water for their cattle. An animal that is compelled to go half a mile over a slippery road, and chased perhaps by dogs, cannot gain in flesh by the operation. If a cow has to travel twice a day half a mile to water, and return, she travels two miles a day;—or ten cows perform twenty miles of travelling per day, and two thousand miles each winter.

GATES.—Every field on the farm should be entered by a good self-shutting and self-fastening gate. Farmers who are too busy in summer to make them, or get them made, should see to it now. How long does it require to take down and put up a set of *bars*? At least two minutes; which if repeated three times a day for a year, amounts to thirty hours, or three days of working time—which would yearly pay for a good gate. Or, examine it in another point of view,—three times a day is eighteen hundred times a year; now, is there any man between Halifax and California, who would take down and replace a set of bars eighteen hundred times in succession, in payment for a farm gate? Hardly—yet this is the price yearly paid by those who use bars that are constantly passed, and the gate is not obtained by it. Again—how much better is a well-hung gate, than one half-hung?—or one with a good self-fastening latch, than one with a pin crowded into an auger-hole? Try it by dragging a badly hung gate over the ground, eighteen hundred times in constant succession, securing it each time with a pin, and see if you do not think this labor would pay for good hinges and a latch.—*Alb. Cultivator.*

English News, Markets, &c.

The arrival of the *Hibernia* brings intelligence to Jan. 4th. The commercial news is of much importance to our farmers, as it shows an increased demamd for American productions. The prices of bread stuffs, provisions and Cotton had materially advanced, and the effects on the markets of this country will soon be manifest.

"The value of American Wheat, Flour and Indian Corn have been gradually raising; so that comparing our present with the quotations of Dec. 4, we find the rise to be as follows: Wheat 1s 6d per 70 lb; Flour 5s 6d to 6s per bbl; Indian Corn 12 to 14s per 480lb; Corn Meal 5s per bbl. Whilst writing, accounts have reached us, stating that at the market held in London yesterday, a rise of 3 to 4s per qr. in wheat on the rates current on the 28th ult. took place. An advance of 3 to 4s was offered for Indian Corn for future shipment. We are not prepared to say whether present prices can or will be maintained.—The supplies to equal the demand, which will prevail for some months, must be enormous. We altogether depend for these from America. In fact, if Ireland continues in such a state of famine, we need not fear lower prices, but on the contrary expect higher rates.

"American Beef and Pork continue in excellent demand, and although supplies are coming in free, very stiff rates are paid."

"The condition of Ireland continues to be the absorbing object of attention. Day after day the distress continues to increase, and famine is doing the work of death in various parts of the country.

"One American house established in the Midland counties for England and New York has, by the last steamer, ordered over forty thousand barrels of flour in lieu of remittances in bills."

"The suffering population of the Highlands and Islands of Scotland is estimated at 100,000.

"Large quantities of cheese have arrived here during the last month. The market is firm, and for American descriptions the prices paid vary from 48s to 52s per cwt. We have a dull market for lard; but this is owing in great degree to the enormous quantity which has lately been imported, notwithstanding prices are maintained, and are likely to continue so. Present quotations range from 42s to 46s, and lard oil 42s to 44s.—*Times.*

The Markets.

The English news having but just arrived, its effects on the markets of this country are not yet manifest, and hence it is of littte use for us to give any quotations, as a considerable rise in most articles is sure to take place immediately. The price of flour in the Eastern cities has already gone up nearly $1 per barrel. We shall look for an active demand for wheat, flour and Indian corn at the Ohio river markets, as we predicted last fall, for shipment via New Orleans.

FARM AND FLOCK OF SHEEP FOR SALE.

THE Subscriber has in the state of Illinois, a plantation of 1000 acres of land—800 acres of which are under cultivation, and 200 acres in wood land; together with a flock of about 1000 fine wool sheep. This farm is situated in Shelby county, one of the best counties in the state; is well watered with never failing springs, and the land is of firstrate quality. There are on the premises a good Dwelling House of 7 rooms, well lathed and plastered; a Barn of hewed logs, Smoke house, Black smith shop and other out houses, a small orchard of bearing fruit trees; also a stock of farming utensials, such as Wagons, Plows, Harrrows, &c.—with Horses, Cattle, Hogs, &c.

The above farm, with or without the stock, will be sold at a very great bargain, and a small part only of the purchase money required in hand. The balance may remain on Mortgage for a term of years at 6 per cent interest.

Any additional information will be given on letters being addressed, post paid, to the subscriber at Massillon Ohio.

H. B. WELLMAN.

January 26, 1847.—3. t.

An Excellent Farm for Sale.

IN Perry township Franklin, county Ohio, 2 miles northwest of Dublin, on the east bank of the Scioto river; 15 miles from the capitol of the State of Ohio; containing 175 acres, of which there is about 75 under cultivation, and well fenced in several fields. Two orchards of bearing fruit trees, one sugar orchard, a good double log house, and a large new barn, and the land of the very best quality of warm and generous soil, well adapted to the cultivation of all kinds of grain, grass, &c. There are two valuable springs on the premises, one near the house equal to any in the country, and the location for a residence is as *pleasant* and *healthy* as any in the State.

The farm will be sold very low for cash, or part cash, and the residue on credit. If desired, it can be divided into two tracts, and sold separately. Title indisputable. For the price and terms apply to the subscriber at his office in Columbus.

3t. S. BRUSH.

DR. O. REYNOLD'S PATENT BEEHIVE.—The cheapest and Best:—Doctor Potter who is disposing of rights in Ohio and elsewhere, passed through Columbus yesterday expecting to return the 20th inst., and put up at the Neil-house, where he will be happy to explain some of the advantages of Reynolds' hive over every other hive now in use.

Dutch Bulbs, Flower roots, &c.

A full assortment of Bulbs and other Flower roots, imported this season, direct from Harlem (Holland,) consisting in part of double and single Hyacinths in great variety, and of all colors; double single and parrot Tulips, Polyanthus Narcissus in variety; double single and sweet scented Jonquils, Crown Imperia's in variety, yellow, blue, white, gold and silver Crocus, Amaryllis, Iris, Ranunculus, Anemones and Gladiolus in variety; scarlet, martagon, Lillies, double and single Snow drops, Tuberoses, Tigridas, &c. &c.—For sale at the Seed Store east fifth street, near the Dennison House, Cincinnati. H. HUXLEY,

N. H. TAYLOR, having returned to Columbus, is prepared to attend to orders in the line of his profession. Room over Pinney and Lampson's store, 2d story. Refers to the Editor of the Cultivator. *Jan. 1st.*, 1847.